Renal Biopsy; Pros & Cons

By

Mohammed Kamal Nassar

Assistant Lecturer of Internal Medicine (Nephrology)

Mansoura University

Kea
Nestor Notabilis

History

- Iverson and Brun (1951)- first renal biopsy description. Aspiration biopsy of kidney.

  Am J Med 11:324—330, 1951

- Kark and Muehrcke (1954)-blind prone biopsy.

  Biopsy of kidney in prone position.

  Lancet 1:1047—1049, 1954

- New era - biopsy guns & imaging

Vim-Silverman needle

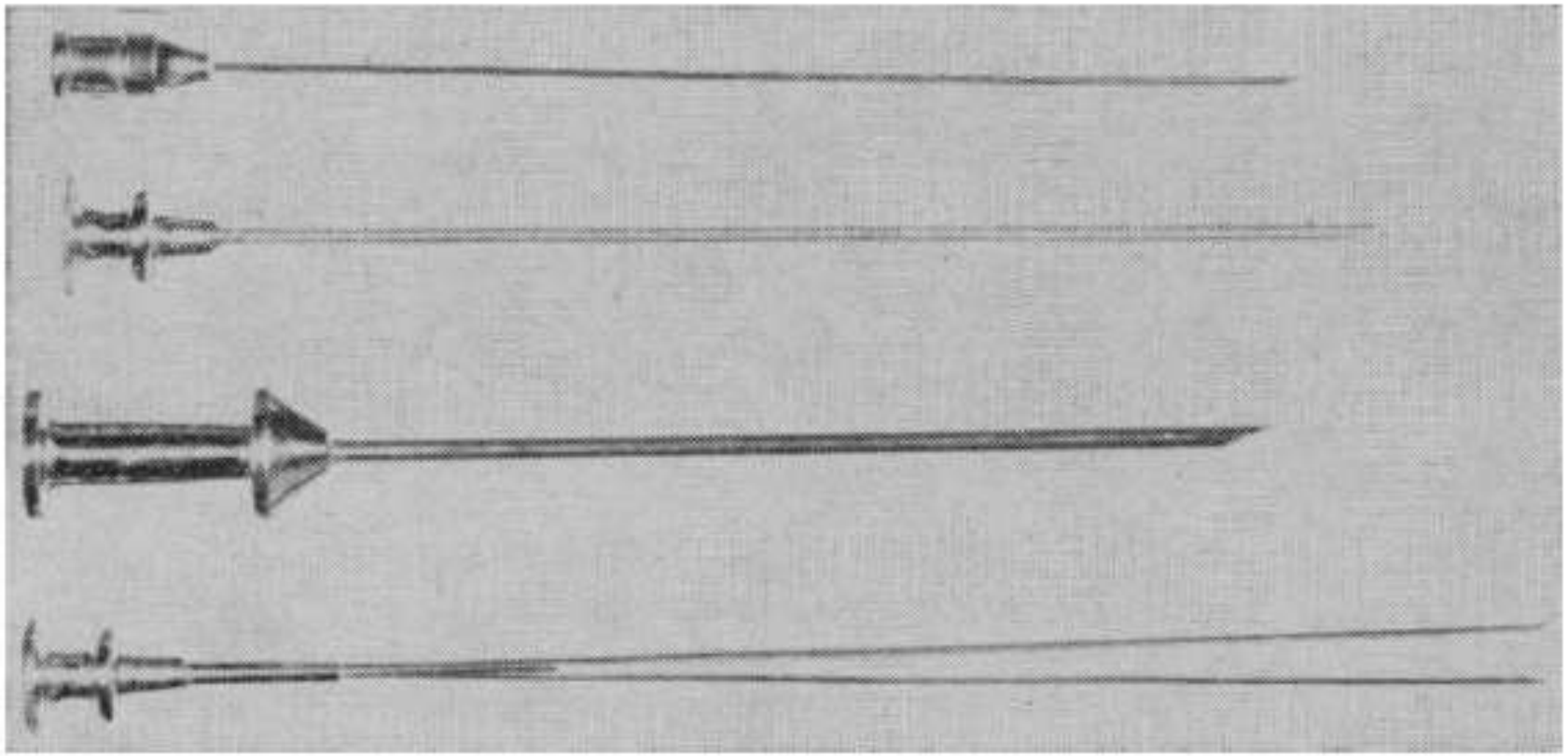


FIG. 1.—The atraumatic exploring needle and the three parts of the biopsy needle, the obturator, the outer sheath and the cutting prongs.

Value

- Original diagnostic tool that opened the door for Nephrology to become a subspecialty, by unlocking many of the mysteries of the pathogenesis of systemic and primary glomerular diseases.

- Improved the care of our patients, by defining the diagnosis, prognosis, and by directing therapy

Value

- 276 native renal biopsies; management was altered in 42% of cases overall.

Nephrol Dial Transplant. 1994;9(9):1255-9

- 3 year prospective study involving 80 patients; Pre-biopsy predicted histologic diagnosis was changed in 44% of the patients as a result of the biopsy. Prognosis changed in 57% of the patients. Therapy changed in 31% of the patients.

Clin Nephrol. 1986 Nov;26(5):217-21

Debates

- Diabetics
- Elderly
- Repeat biopsy in LN

Renal biopsy in Diabetic patients

- Diabetic nephropathy is now the leading cause of ESRD in the developed world.

- A commonly held opinion is that patients with diabetes who develop proteinuria in the presence of other microangiopathic complications such as retinopathy are likely to have diabetic nephropathy, and thus renal biopsy will provide little diagnostic, prognostic, or therapeutic value.

Against (Cons)

Q J Med 2011; **104**:771–774
doi:10.1093/qjmed/hcr059 Advance Access Publication 18 April 2011

Clinical versus histological diagnosis of diabetic nephropathy—is renal biopsy required in type 2 diabetic patients with renal disease?

G. BIESENBACH, G. BODLAJ, H. PIERINGER and M. SEDLAK

From the Second Department of Medicine, Section Nephrolgy, General Hospital Linu, Austria

- 84 patients with type 2 diabetes and ESRD .
- Renal biopsy: 14 before their first dialysis, 70 post-mortem .
- Histologically, 66 dNP and 18 vNP.
- The histological diagnosis was compared with the clinical diagnosis.

Clinical diagnosis

Diabetic nephropathy

- Proteinuria.
- Normal urine sediment.
- Normal kidney size.
- Diabetes duration over 10 years.

Vascular nephropathy

- Normal urine status.
- Normal or near normal protein excretion,
- Shrinkage of a kidney
- ± stenosis of the renal artery

		Histological diagnosis (gold standard)		
		Positive	Negative	
Clinical diagnosis	Positive	63	4	Positive predictive value 0.84
	Negative	3	14	Negative predictive value 0.82
		Sensitivity 0.95	Specificity 0.78	

		Histological diagnosis (gold standard)		
		Positive	Negative	
Clinical diagnosis	Positive	16	1	Positive predictive value 0.94
	Negative	2	65	Negative predictive value 0.97
		Sensitivity 0.89	Specificity 0.96	

Conclusion: The sensitivity of the clinical diagnosis is very high for dNP as well as vNP. A renal biopsy is not required in the majority of type 2 diabetic patients with ESRD, especially in patients who exhibit all criteria for clinical diagnosis.

With (Pros)

Different Patterns of Renal Damage in Type 2 Diabetes Mellitus: A Multicentric Study on 393 Biopsies

Gianna Mazzucco, MD, Tullio Bertani, MD, Mirella Fortunato, MD, Monica Bernardi, MD, Monica Leutner, MD, Renzo Boldorini, MD, and Guido Monga, MD

American Journal of Kidney Diseases, Vol 39, No 4 (April), 2002: pp 713-720

- 393 patients type 2 diabetes patients, from 1977 to 2000, biopsied in nephrology divisions in the Torino ,Novara and Bergamo, Italy.
- In Torino and Novara centers ; a restricted policy (CRPs) (203).
- In the Bergamon center ,an unrestricted policy (CUP) (190).

- Histologically; cases were subdivided into three classes:
  - Class I: diabetic glomerulosclerosis.
  - Class II: Hypertensive and ischemic glomerular changes
  - Class IIIa: Other glomerulonephritides + diabetic glomerulosclerosis.
  - Class IIIb: Other glomerulonephritides without diabetic glomerulosclerosis

Clinical and Functional Characteristics of Cases From Different Centers

	Class 1 156 (40%)		Class 2 60 (16%)		Class 3 172 (44%)	
	CUP	CRPs	CUP	CRPs	CUP	CRPs
No. of patients	99	57	30	30	61	111
Sex ratio (M/F)	1.8	2.16	2	2.94	1.77	2.08
Age (y)	61.96 ± 10.24	60.10 ± 10.07	62.42 ± 9.86	57.41 ± 11.94	63.81 ± 9.27	61.49 ± 11.33
Duration of diabetes (y)	11.3 ± 7.73	11.3 ± 8.82	10.6 ± 7.52	7.28 ± 7.88	8.82 ± 10.27	7.01 ± 7.18
Serum creatinine (mg/dL)	2.23 ± 1.73	2.19 ± 1.77	2.8 ± 2.1	2.6 ± 1.8	2.73 ± 2.24	2.66 ± 2.5
Proteinuria (g/d)	4.7 ± 4.7	5.08 ± 3.8	2.4 ± 1.77	3.03 ± 1.9	5.7 ± 6.26	4.8 ± 3.7
Arterial blood pressure (mm Hg)	157/88 ± 17.4/9.7	150/85 ± 15.8/8.8	143/84 ± 16.1/8.7	147/84 ± 19.2/9.3	161/90 ± 14.7/9.1	147/83 ± 19.7/9.8

Analysis

CRPs 203 (51.6%)

- **Class I: 28%**
- **Class II: 15%**
- **Class III: 57%**
  - **IIIa: 13%**
  - **IIIb: 44%**

CUP 190 (48.4 %)

- **Class I: 52%**
- **Class II: 15%**
- **Class III: 33%**
  - **IIIa: 22%**
  - **IIIb: 11%**

Frequency of Glomerular Disease Superimposed on Diabetic Nephropathy (Class 3a) and Without Diabetic Nephropathy (Class 3b)

		Class 3a			Class 3b		
	No. of Cases	Total (%)	CRPs	CUP	Total (%)	CRPs	CUP
Membranous GN	41	10 (24.3)	8	2	31 (75.6)	25	6
IgA GN	36	12 (33.3)	1	11	24 (66.6)	16	8
Postinfectious GN	37	26 (70.2)	8	18	11 (29.7)	8	3
MCD/FSGS	22	0 (0.0)	0	0	22 (100)	18	4
Extracapillary GN	17	8 (47.0)	3	5	9 (52.9)	9	0
Cryoglobulinemic GN	12	11 (91.6)	4	7	1 (8.3)	1	0
Other glomerular diseases	12	1 (8.3)	1	0	11 (91.9)	11	0
Total	177	68 (38.4)	25	43	109 (61.6)	88	21

Conclusion: this study helps clarify the frequency of renal changes in patients with type 2 diabetes and suggests more extensive use of renal biopsy to obtain reliable prognostic indications and plan a rational therapeutic approach.

The Modern Spectrum of Renal Biopsy Findings in Patients with Diabetes

Shree G. Sharma, Andrew S. Bomback,† Jai Radhakrishnan,† Leal C. Herlitz,‡ Michael B. Stokes,‡ Glen S. Markowitz,‡ and Vivette D. D'Agati‡*

Clin J Am Soc Nephrol 8: 1718–1724, 2013. doi: 10.2215/CJN.02510213

- 620 diabetic patients renal biopsies accessioned in the Columbia Renal Pathology Laboratory in 2011 were reviewed retrospectively.
- Indications for renal biopsy; AKI on a baseline of no CKD, AKI on a baseline of CKD, level of proteinuria, any positive serologic test, and active urine sediment
- Classified into three categories: DN alone, DN with superimposed NDRD, and NDRD alone.

Table 1. Key demographic and clinical data at time of kidney biopsy

Characteristics	DN Alone	DN Plus NDRD	NDRD Alone
Participants (*n*)	227	164	220
Age (yr)	59 (49–65)	63 (55–72)[a]	63 (54–70)[b]
Male sex	129 (56.8)	100 (61.0)	142 (64.6)
Race			
Unknown	108 (47.6)	57 (34.8)[a]	104 (47.3)[c]
White	62 (27.3)	63 (38.4)[a]	70 (31.8)
African American	39 (17.2)	33 (20.1)	29 (13.2)
Hispanic	12 (5.3)	7 (4.3)	8 (3.6)
Asian	4 (1.8)	4 (2.4)	7 (3.2)
Other	2 (0.9)	0 (0.0)	2 (0.9)
DM type 1	9 (4.0)	5 (3.1)	2 (0.9)[b]
Duration of DM (yr)	13 (8–17)	10 (7–18)	5 (3–10)[b,c]
Serum creatinine (mg/dl)	2.3 (1.6–3.8)	3.1 (1.7–5.2)[a]	2.3 (1.5–4.4)[c]
eGFR (ml/min per 1.73 m^2)	31.3 (17.5–55.2)	21.4 (12.5–46.6)[a]	32.5 (14.3–60.0)[c]
Proteinuria (g/d)	5.0 (2.8–8.8)	5.0 (2.0–8.0)	2.9 (1.4–7.1)[b,c]

64% 63% 37% 27% 36%

Table 2. Summary of NDRD, with and without DN, found on biopsies of patients with diabetes

Types of NDRD (n)	NDRD Alone (*n*=220)	DN Plus NDRD (*n*=164)	*P* Value[a]
Acute tubular necrosis (109)	38 (17.3)	71 (43.3)	<0.001
FSGS (69)	48 (21.8)	21 (12.8)	0.02
Primary FSGS (6)	6 (2.7)	0 (0.0)	0.03
Secondary FSGS (63)[b]			
HTN related	19 (8.6)	10 (6.1)	0.35
HTN plus obesity related	16 (7.3)	10 (6.1)	0.65
Obesity related	4 (1.8)	1 (0.6)	0.30
Other[c]	3 (1.4)	0 (0.0)	0.13
Hypertensive nephrosclerosis (70)[b]	39 (17.7)	31 (18.9)	0.77
IgA nephropathy (35)	23 (10.5)	12 (7.3)	0.29
Membranous GN (23)	18 (8.2)	5 (3.0)	0.04
Pauci-immune crescentic GN (19)	15 (6.8)	4 (2.4)	0.05
Acute interstitial nephritis (18)	11 (5.0)	7 (4.3)	0.73
Amyloidosis (10)	10 (4.5)	0 (0)	0.01
Myeloma cast nephropathy (10)	8 (3.6)	2 (1.2)	0.14
Acute postinfectious GN (6)	3 (1.4)	3 (1.8)	0.72
Atheroembolic disease (5)	2 (0.9)	3 (1.8)	0.43
Others (10)	5 (2.3)	5 (3.0)	0.64

Table 4. Association of key clinical predictors and biopsy findings of nondiabetic renal disease

Variables	OR (95% CI)	*P* Value
Proteinuria (mg/d)		
<500	1.00 (reference)	
500–3500	1.28 (0.39 to 4.20)	0.68
>3500	0.55 (0.19 to 1.66)	0.29
eGFR (ml/min per 1.73 m^2)		
>60	1.00 (reference)	
30–60	0.89 (0.35 to 2.25)	0.81
15–30	1.42 (0.53 to 3.82)	0.49
≤15	1.54 (0.48 to 4.96)	0.47
Age	1.03 (1.00 to 1.06)	0.06
Male sex	1.05 (0.54 to 2.02)	0.89
Race		
Unknown	1.00 (reference)	
White	0.93 (0.46 to 1.91)	0.85
Black	1.38 (0.49 to 3.84)	0.54
Hispanic	1.07 (0.27 to 4.23)	0.93
Asian	1.66 (0.26 to 10.67)	0.59
Duration of diabetes	0.95 (0.91 to 0.98)	0.004
AKI	1.44 (0.67 to 3.07)	0.35
Low complements	4.70 (0.49 to 45.42)	0.18
M-spike (serum or urine)	1.50 (0.51 to 4.37)	0.46

Conclusion

- Approximately one-quarter of all renal biopsies are performed in patients with DM.
- Judicious use of renal biopsy has uncovered NDRD alone or superimposed on DN in the majority of such biopsies.
- ATN is emerging as an important category of NDRD, which has not been reported previously.

Utility of renal biopsy in the clinical management of renal disease

Neeraj Dhaun[1,2], Christopher O. Bellamy[3], Daniel C. Cattran[4] and David C. Kluth[2]

[1]BHF Centre of Research Excellence, University of Edinburgh, The Queen's Medical Research Institute, Edinburgh, UK; [2]Department of Renal Medicine, Royal Infirmary of Edinburgh, Edinburgh, UK; [3]Department of Pathology, Royal Infirmary of Edinburgh, Edinburgh, UK and [4]University Health Network, Toronto General Hospital, Toronto, Canada

Table 2 | Suggested indications for renal biopsy in patients with diabetes with the appropriate clinical setting

Nephrotic-range proteinuria, but an absence of other diabetic microangiopathic complications (especially in type 1 diabetes[97])
Diabetes for an insufficient length of time for nephropathy to develop[40] (usually 10 years; this may include those with subnephrotic-range proteinuria and/or those with unexplained renal impairment)
Patients with minimal comorbidity in whom immunosuppressive treatment for an alternative diagnosis may be considered
Patients in whom a transplant may be considered and the natural history of their renal disease has been unusual for diabetic nephropathy

Renal biopsy in elderly patients

[[

I. Diagnostic Utility

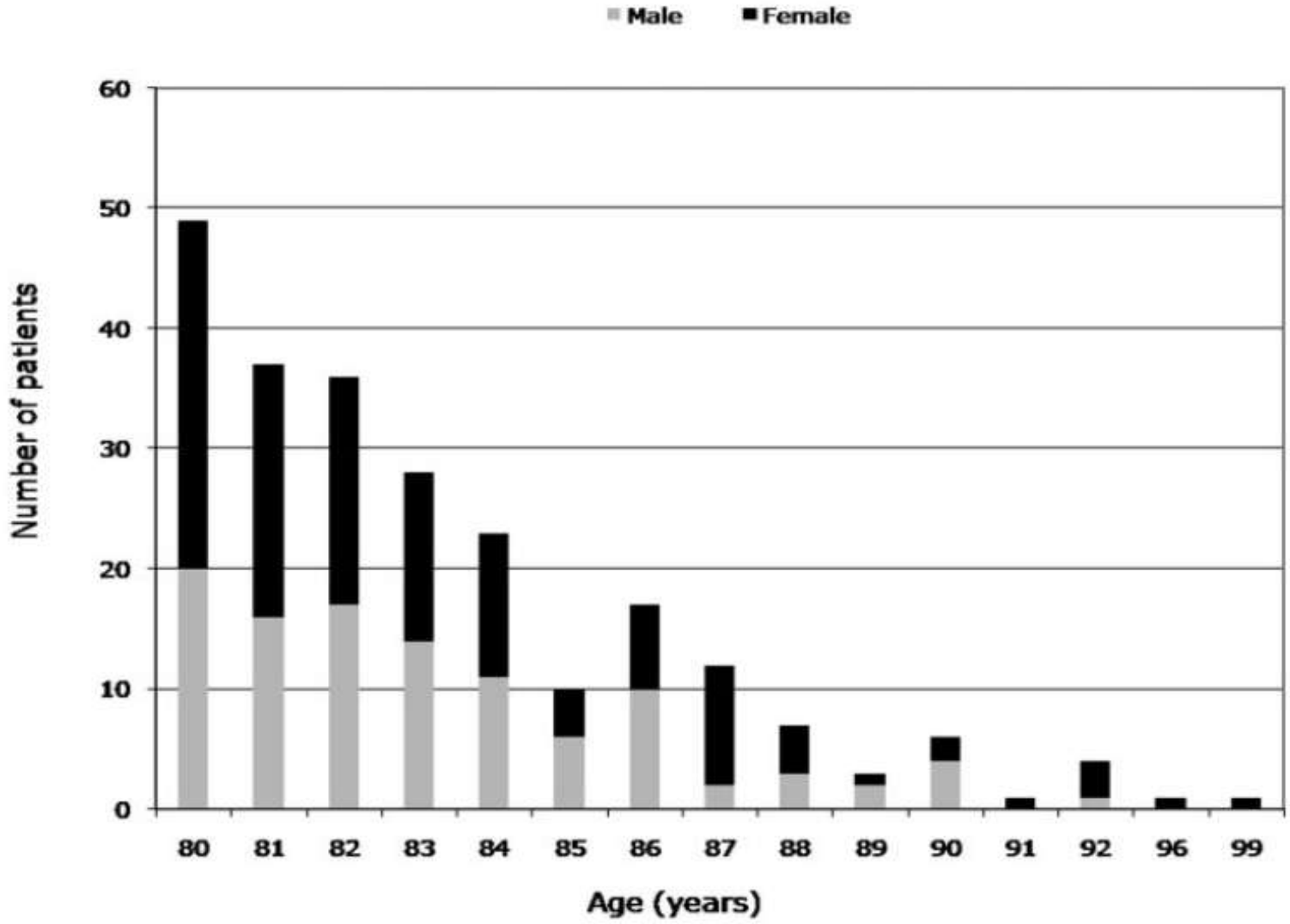
Renal Biopsy in the Very Elderly

Dimitrios-Anestis Moutzouris,* Leal Herlitz,† Gerald B. Appel,‡ Glen S. Markowitz,† Bernard Freudenthal,‡ Jai Radhakrishnan,‡ and Vivette D. D'Agati†

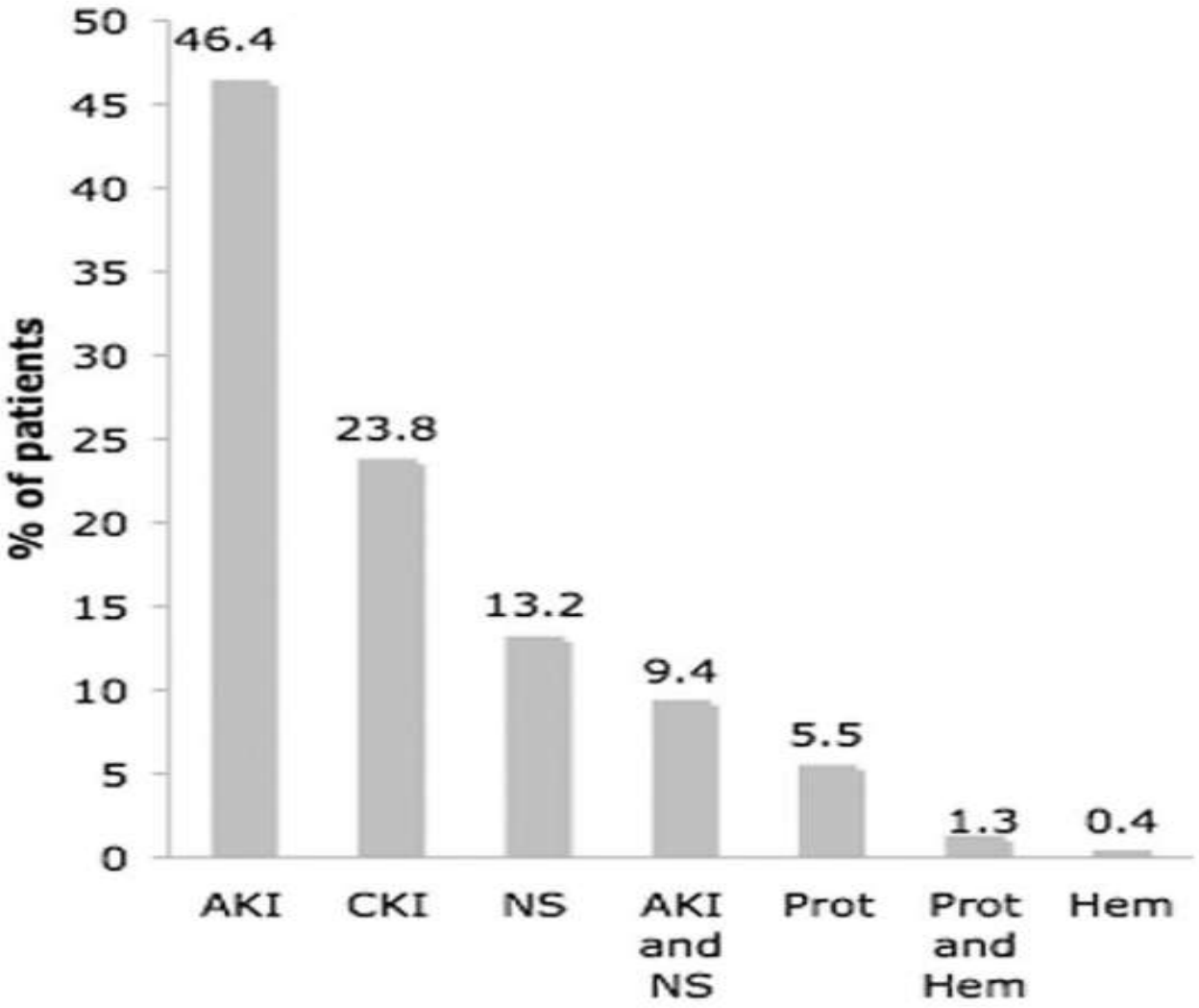
Clin J Am Soc Nephrol 4: 1073–1082, 2009. doi: 10.2215/CJN.00990209

- 235 patients ≥ 80 years renal biopsies were processed at the Pathology Laboratory at Columbia University Medical Center during a 3.67-yr period from January 2005 to August 2008.

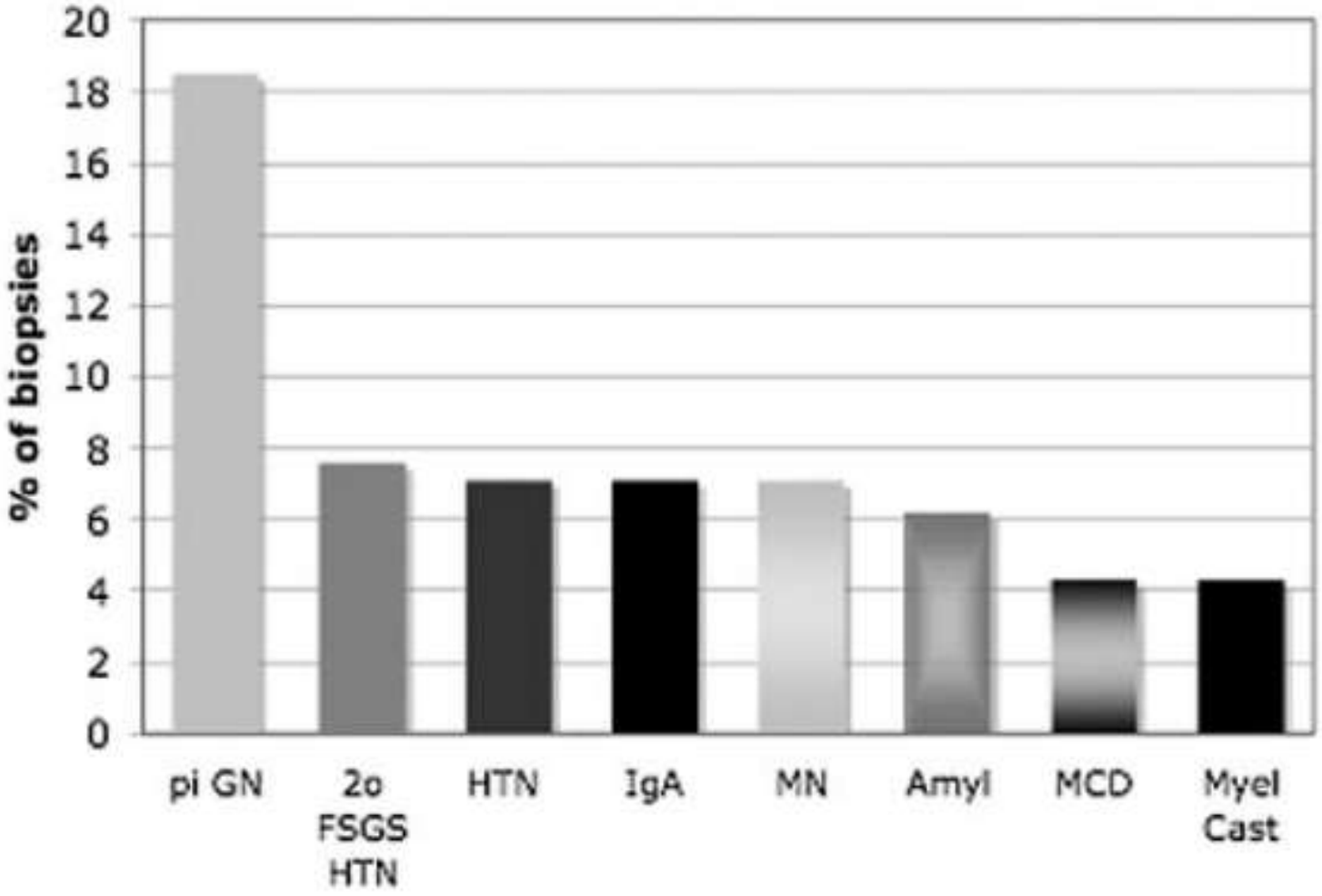
Distribution of age



Indications for renal biopsy

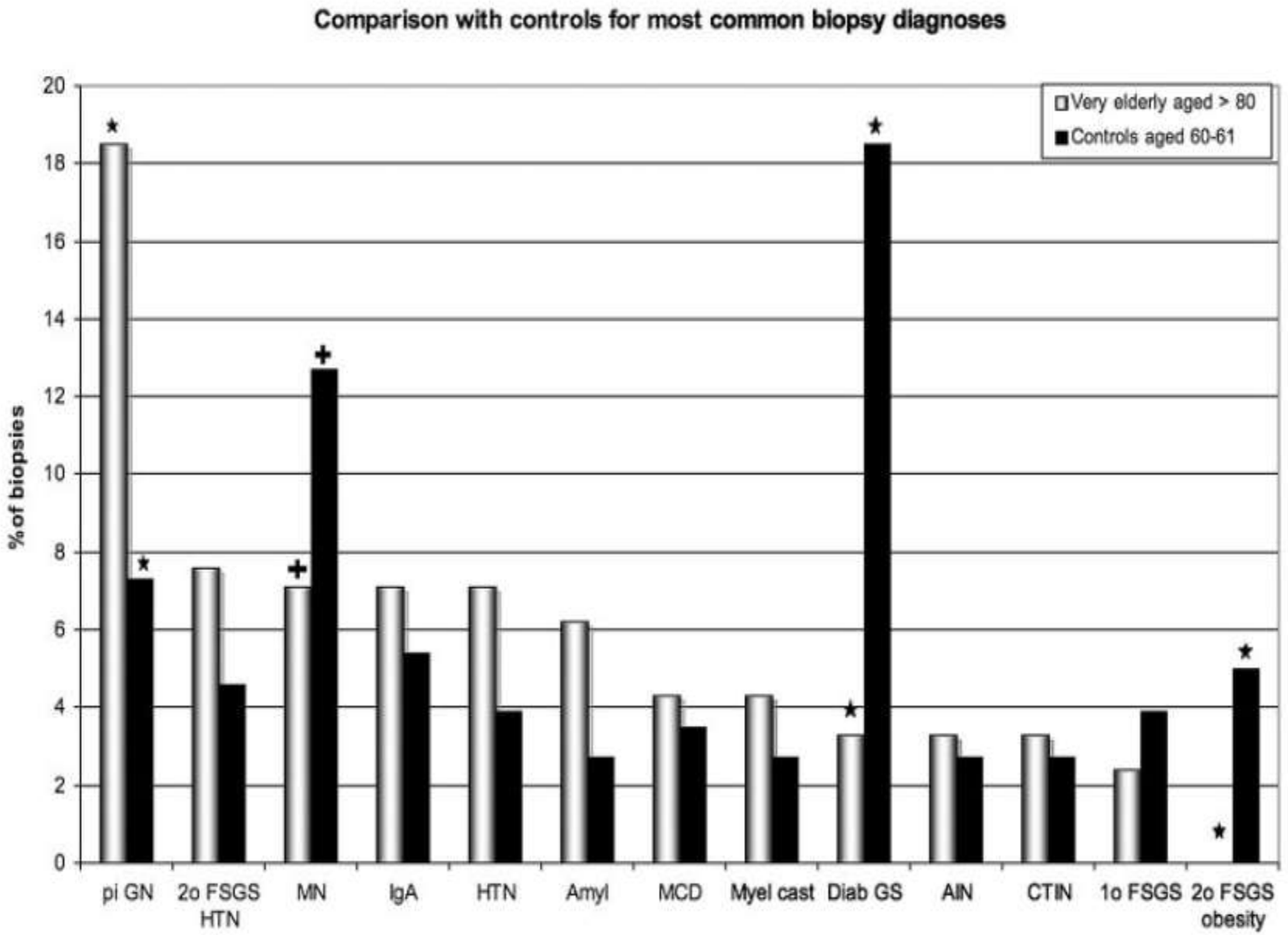


Most common biopsy diagnoses



Causes of NS

Biopsy Diagnosis	*n*	%
Membranous nephropathy	11	22
Amyloidosis	9	18
MCD	8	16
IgA nephropathy	3	6
Pauci-immune GN	2	4
MPGN	2	4
Diabetic GS	2	4
FSGS (primary)	2	4
Total	39	78


Comparison with controls for most common biopsy diagnoses
Very elderly aged > 80
Controls aged 60-61
% of biopsies
0
2
4
6
8
10
12
14
16
18
20
pi GN
2o FSGS HTN
MN
IgA
HTN
Amyl
MCD
Myel cast
Diab GS
AIN
CTIN
1o FSGS
2o FSGS obesity

Do or do not modify treatment

Variable	Modifies Treatment, *n* (%)	Does Not Modify Treatment, *n* (%)	Total *n*	*P*
Clinical presentation				
AKI	82 (52)	27 (35)	109	0.01
CKI	21 (13)	35 (45)	56	<0.001
NS	28 (18)	3 (4)	31	0.003
AKI and NS	18 (12)	4 (5)	22	0.116
proteinuria	5 (3)	8 (10)	13	0.03
proteinuria and hematuria	3 (2)	0 (0)	3	–
hematuria	0 (0)	1 (1)	1	–
total	157 (67)	78 (33)	235	
History of chronic kidney injury	43 (41)	32 (68)	75	0.002
Microhematuria	84 (70)	19 (40)	103	<0.001
Positive ANCA	40 (49)	5 (16)	45	<0.001

67%

In conclusion, renal biopsy in very elderly patients provides valuable information regarding diagnosis and prognosis in diverse clinical settings, particularly AKI or NS. Therefore, advanced age alone should no longer make physicians reluctant to perform renal biopsy. Given the trend toward greater longevity, it is time to reconsider the traditional definition of what constitutes elderly in the modern era and study more closely the renal diseases arising in the very elderly population.

Renal Biopsy in the Elderly and Very Elderly: Useful or Not?

Andrew S. Bomback, Leal C. Herlitz, and Glen S. Markowitz

Advances in Chronic Kidney Disease, Vol 19, No 2 (March), 2012: pp 61-67

- We conclude that, in a variety of commonly encountered clinical situations, a renal biopsy is crucial for appropriate management of elderly and very elderly patients with kidney disease.

II. Safety

Int Urol Nephrol (2006) 38:815–820
DOI 10.1007/s11255-006-0088-0

RESEARCH ARTICLE

Safety of kidney biopsy in elderly: a prospective study

Harbir Singh Kohli · A. Jairam · Ashok Bhat · Kamal Sud · Vivekanand Jha · Krishan Lal Gupta · Vinay Sakhuja

	Elderly ($n = 26$)	Young ($n = 184$)
Gross hematuria	4*	7
Perinephric hematoma	0	1
Need for blood transfusion/ hemodynamic compromise/ intervention (bladder lavage due to clot obstruction)	0 0	4 1

* $P < 0.01$

In conclusion, kidney biopsy in the elderly yields valuable information just as it is in other age groups. It is a reasonably safe procedure; however, it is associated with an increased risk of minor bleed as compared to younger population.

Original Report: Patient-Oriented, Translational Research

American Journal of Nephrology

Am J Nephrol 2013;37:255–263
DOI: 10.1159/000348566

Received: December 3, 2012
Accepted: February 1, 2013
Published online: March 13, 2013

Renal Biopsy in Chronic Kidney Disease: Lessons from a Large Italian Registry

Gianluigi Zaza Patrizia Bernich Antonio Lupo
on behalf of the 'Triveneto' Register of Renal Biopsies (TVRRB)

Renal Unit, Department of Medicine, University Hospital of Verona, Verona, Italy

	Postbiopsy complications %
Age	
<40 years (n = 284)	3.2
40–65 years (n = 557)	4.7
>65 years (n = 344)	4.7

Repeat Renal Biopsy in Lupus Nephritis

I. Renal Flare

Against (Cons)

Nephrol Dial Transplant (2009) 24: 3712–3717
doi: 10.1093/ndt/gfp359
Advance Access publication 21 July 2009

The clinical relevance of a repeat biopsy in lupus nephritis flares

Gabriëlle M. N. Daleboudt[1], Ingeborg M. Bajema[2], Natascha N. T. Goemaere[3], Jaap M. van Laar[4], Jan A. Bruijn[2] and Stefan P. Berger[1,5]

- 35 patients with lupus nephritis and one or more repeat renal biopsies were reviewed retrospectively.

Class switch

	Reference biopsy	
	Proliferative	Non-proliferative
Repeat biopsy		
Proliferative	41	5
Non-proliferative	1	1
Glomerulosclerosis	1	0

$P < 0.001$.

Alterations in immunosupression

	After reference biopsy	After repeat biopsy
Increased immunosuppression	19	21
Decreased/stopped immunosuppression	1	8
No change	3	8
Other	5	3
Unknown	7	9
Total	35	49

Conclusion

In conclusion, the clinical relevance of a repeat biopsy in lupus nephritis seems to be limited. In the case of non-proliferative lesions on reference biopsy, a repeat biopsy is advisable in the presence of clinical deterioration since a switch to more proliferative lesions is often found. If a patient with proliferative lesions on a previous biopsy presents with a renal flare, appropriate induction treatment can be initiated without additional biopsies, since a repeat biopsy will show similar lesions in most cases.

With (Pros)

Original Report: Patient-Oriented, Translational Research

American Journal of Nephrology

Am J Nephrol 2011;34:220–225
DOI: 10.1159/000330356

Received: May 11, 2011
Accepted: June 24, 2011
Published online: July 23, 2011

Repeat Renal Biopsy in Lupus Nephritis: A Change in Histological Pattern Is Common

Jianxin Lu[a] Lai-Shan Tam[a] Fernand Mac-Moune Lai[b]
Bonnie Ching-Ha Kwan[a] Paul Cheung-Lung Choi[b] Edmund Kwok-Ming Li[a]
Kai-Ming Chow[a] Philip Kam-Tao Li[a] Cheuk-Chun Szeto[a]

- 156 LN patients with repeat renal biopsies were reviewed retrospectively.

Reference biopsy:	proliferative			membranous			mix			any
Repeat biopsy:	prolif-erative	membra-nous	mix	prolif-erative	membra-nous	mix	prolif-erative	membra-nous	mix	class II
Cases	38	24	28	6	18	12	18	14	21	25
Age, years	30.3 ± 8.9	28.5 ± 9.4	29.0 ± 10.1	33.3 ± 10.6	32.3 ± 9.9	32.8 ± 12.4	29.8 ± 8.1	29.8 ± 7.9	29.3 ± 11.8	27.2 ± 9.0
Males:females	0:38	4:20	3:25	0:6	2:16	1:11	1:17	1:13	4:17	4:21
Duration of SLE months	30.7 ± 9.1	28.9 ± 9.5	29.7 ± 10.3	33.8 ± 10.8	32.8 ± 10.0	33.3 ± 12.6	30.5 ± 8.4	32.0 ± 7.0	28.8 ± 12.0	33.1 ± 10.9
Lapse between the biopsies, months	38 ± 23.5	46.2 ± 37.9	55.3 ± 43.5	60.5 ± 30.3	49.0 ± 44.2	60.8 ± 43.9	35.3 ± 26.7	65.4 ± 53.7	34.3 ± 24.1	23.9 ± 18.7

57.8%

50%

60.4%

Conclusion: The present study suggests that a change in the histological class of LN is common in systemic lupus erythematosus patients with lupus flare, and the histology during disease flare could not be predicted by baseline clinical, biochemical, or pathological parameters. Our results indicate that when there is lupus flare with renal involvement, repeat renal biopsy is often necessary to guide the treatment.

Chin Med J 2012;125(16):2890-2894

Original article

Changes in pathological pattern and treatment regimens based on repeat renal biopsy in lupus nephritis

WANG Guo-bao, XU Zheng-jin, LIU Hong-fa, ZHOU Qiu-gen, ZHOU Zhan-mei and JIA Nan

- 44 patients with lupus nephritis and repeat renal biopsy due to:
  - Improvement of renal disease but persistence of non-nephrotic proteinuria
  - Persistent or relapsing nephrotic syndrome.
  - Worsening of renal function; and relapse.

Pathological transition

Repeat biopsy	Reference biopsy number			
	Proliferative (*n*=26)	Membranous (*n*=3)	Mix (*n*=16)	Any (*n*=5)
Proliferative	17 (65.4)	0 (0)	0 (0)	4 (80.0)
Membranous	0 (0)	0 (0)	3 (18.7)	0 (0)
Mix	3 (11.5)	3 (100.0)	13 (81.3)	1 (20.0)
Any				
II	5 (19.2)	0 (0)	0 (0)	0 (0)
VI	1 (3.9)	0 (0)	0 (0)	0 (0)

Pathological transition could not be predicted by any clinical characteristics

Parameters	With transition (n=32)	Without transition (n=18)	P values
Duration of SLE (months)	48.6±30.3	42.6±29.5	0.504
Age (years)	25.8±8.8	30.8±10.2	0.079
Excretion of urine protein (g/24 hours)	2.8±1.8	3.4±1.8	0.287
Serum creatinin (μmol/L)	104.0±107.2	109.7±71.9	0.840
Serum albumin (g/L)	27.0±7.5	26.0±5.5	0.642
Complement C3 (g/L)	0.48±0.26	0.45±0.20	0.725
Titer of anti ds-DNA (U/ml)	84.2±97.5	64.3±41.0	0.415
SLEDAI	11.9±4.5	13.7±2.6	0.128
Renal histology			
AI	5.4±3.2	6.5±2.5	0.204
CI	1.7±1.3	2.1±1.1	0.319

Alterations in immunosuppressive therapy after repeat biopsy

Treatment regimen before repeat biopsy	Treatment regimen after repeat biopsy		
	Increased immunosuppression	No change	Decreased immunosuppression
Increased immunosuppresion	10	5	3
No change	5	14	4
Decreased immunosuppresion	0	0	9

34%

Conclusions The pathological conversion was very prevalent in patients with lupus nephritis. However, the transitions became less prevalent when they were analyzed according to pure membranous, proliferative, and mix lesion. Repeat biopsy might be helpful to avoid unnecessary increased immunosuppression therapy.

Nephrol Dial Transplant (2013) 0: 1–10
doi: 10.1093/ndt/gft272

ndt
Nephrology Dialysis Transplantation

Original Article

The value of repeat biopsy in the management of lupus nephritis: an international multicentre study in a large cohort of patients

Conclusions. The histopathological data suggest that morphological differences between segmental and global forms do exist, possibly due to different pathogenetic mechanisms. An RB strategy could provide additional information on long-term renal outcomes. A strategy of protocol biopsies could be useful in perspective future trials to better understand the therapeutic response and the natural history of this disease.

II. Quiescent Lupus Nephritis

Lupus (2014) 0, 1–8
http://lup.sagepub.com

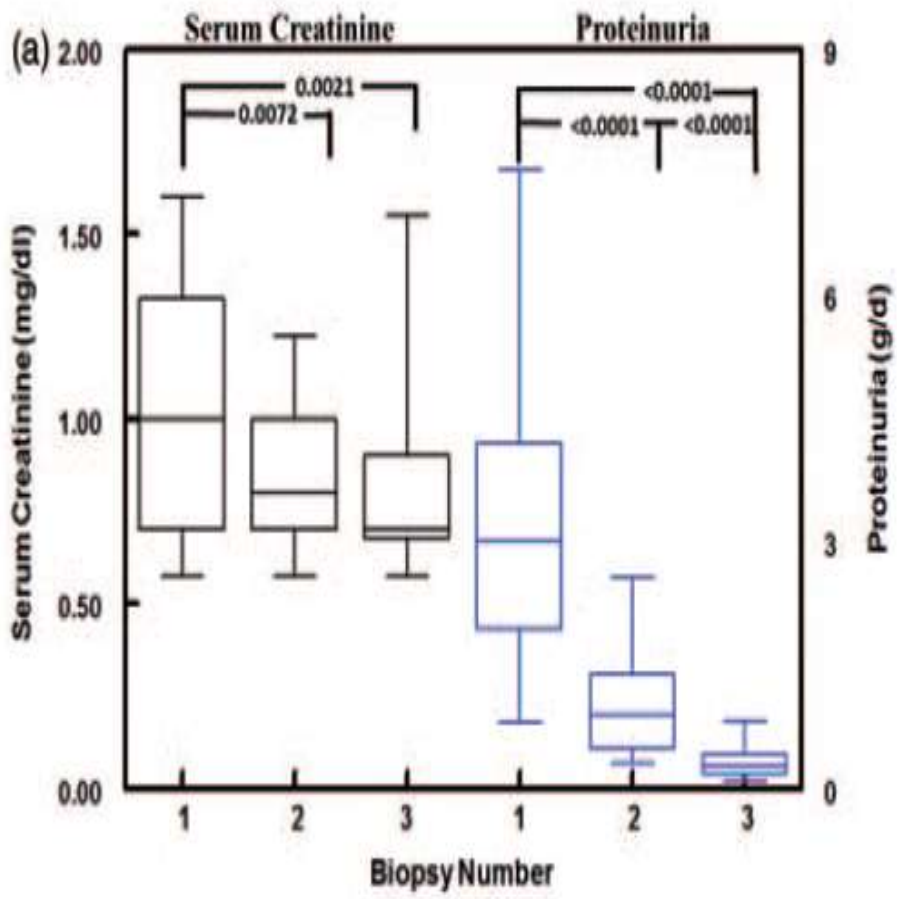
LUPUS AROUND THE WORLD

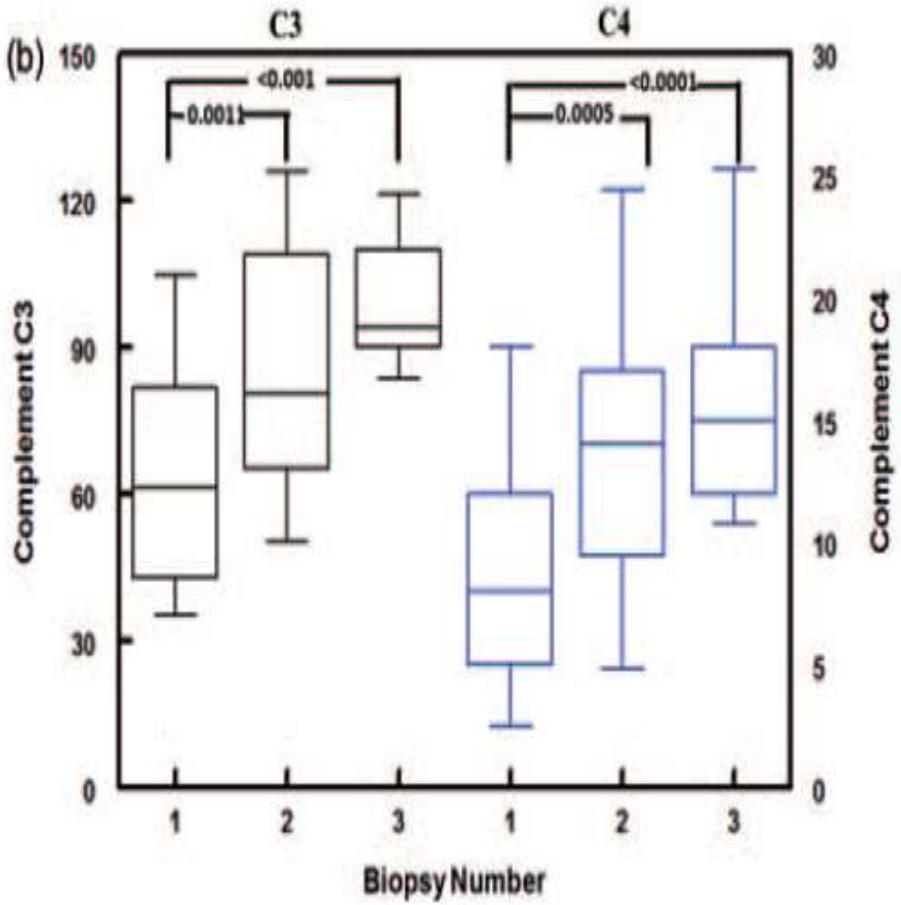
The value of repeat kidney biopsy in quiescent Argentinian lupus nephritis patients

AS Alvarado[1], A Malvar[2], B Lococo[2], V Alberton[3], F Toniolo[4], HN Nagaraja[5] and BH Rovin[1]
[1]Nephrology Division, The Ohio State University Wexner Medical Center, Ohio, USA; [2]Nephrology Division, Hospital Fernandez, Buenos Aires, Argentina; [3]Pathology Department, Hospital Fernandez, Buenos Aires, Argentina; [4]Centro de Diagnostico Patologico, Buenos Aires, Argentina; and [5]The Ohio State University College of Public Health, Ohio, USA

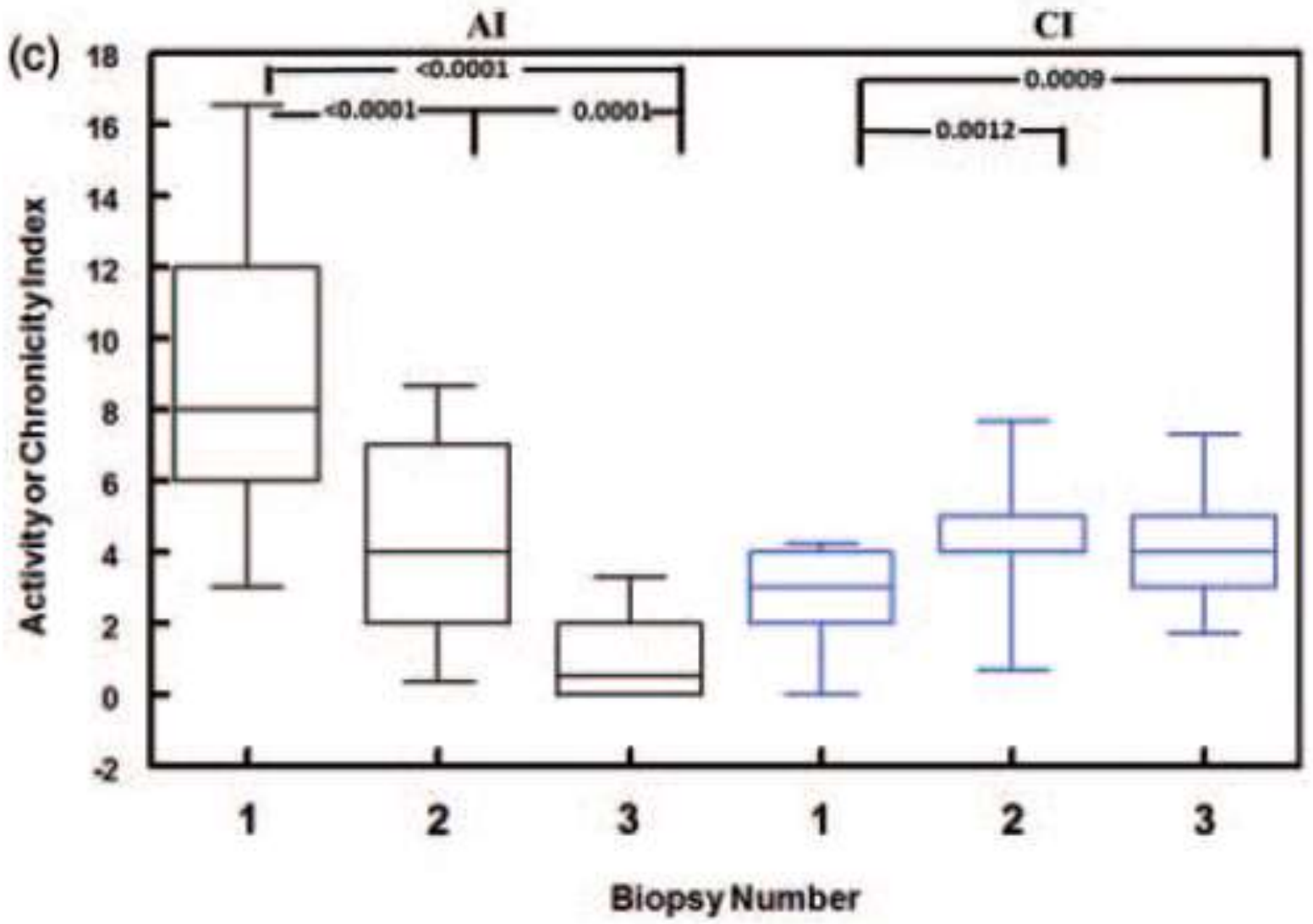
- 25 hispanics with lupus nephritis, biopsied 3 times:
  - At the start of the disease
  - 6 months after initial therapy
  - At least 24 months after clinical stability

Improvement in kidney function, proteinuria and complement

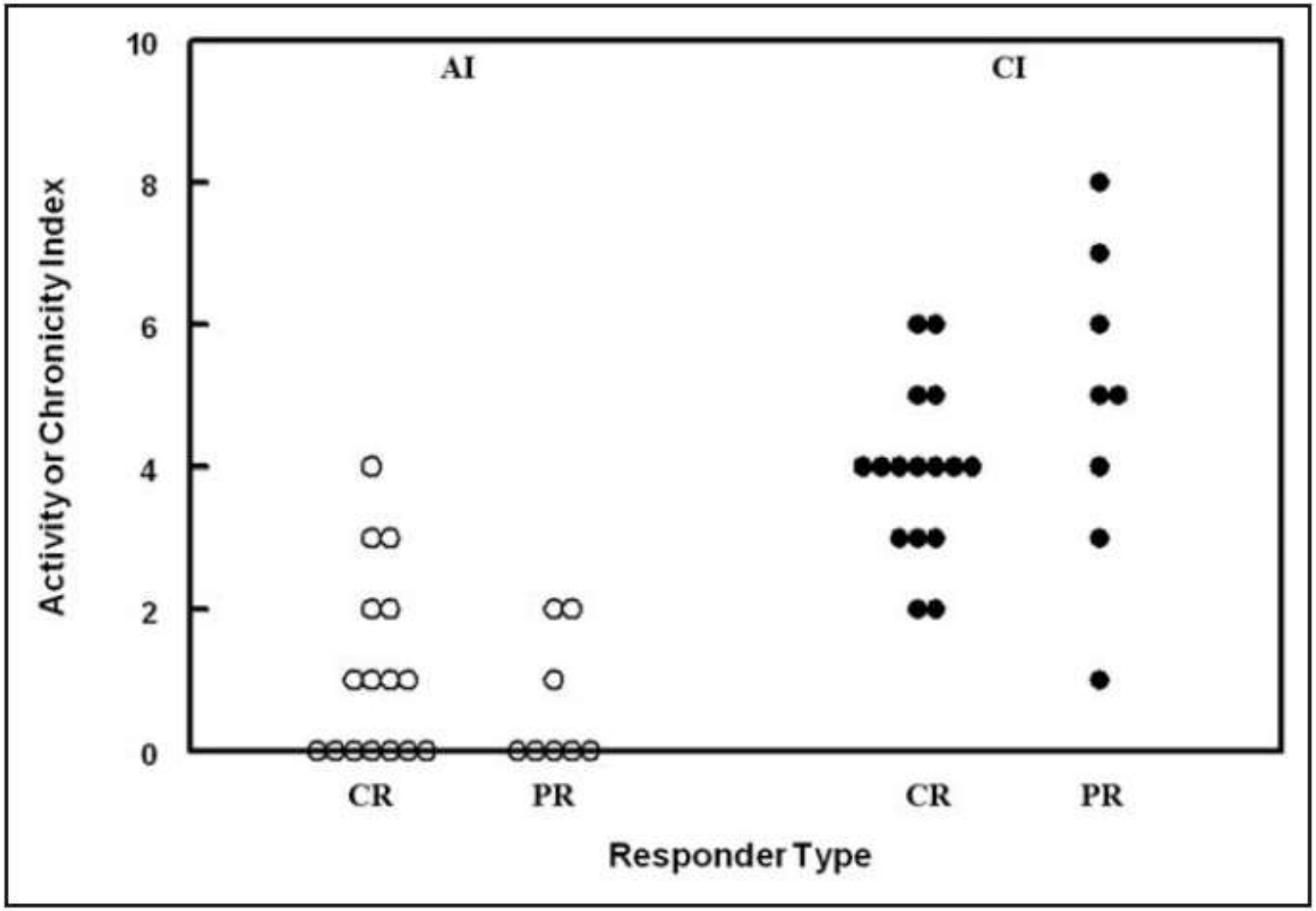




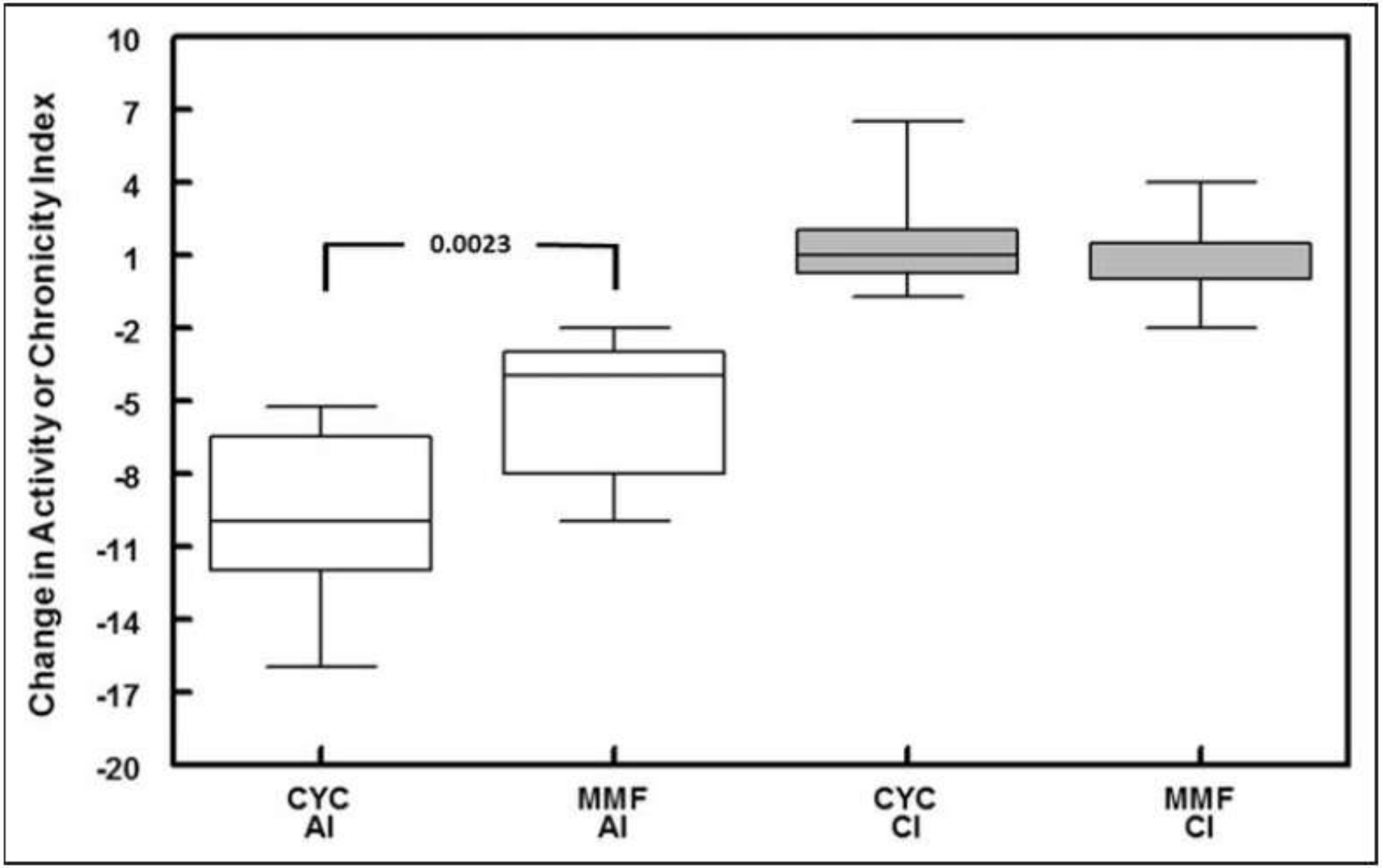
Improvement in kidney pathology



Activity and chronicity indices of biopsy 3



The effect of induction therapy on activity index (AI) and chronicity index (CI)



Conclusion

- These data suggest that a repeat biopsy may be useful in making the decision to withdraw or continue maintenance immunosuppression.

Take Home Message

- Biopsy should be encouraged in diabetic patients under certain circumstances.
- Advanced age alone should no longer make physicians reluctant to do renal biopsy.
- The pathological conversion is prevalent in patients with lupus nephritis flare. Repeat biopsy might be helpful to avoid unnecessary increased immunosuppression.
- Protocol renal biopsy in lupus nephritis is still an opinion needing further evaluation.


Thank you...